

PROXY GROUP OF SEVEN WATER COMPANIES  
CAPITALIZATION AND FINANCIAL STATISTICS (1)  
1994 - 1998, INCLUSIVE

	<u>1998</u>	<u>1997</u>	<u>1996</u>	<u>1995</u>	<u>1994</u>	
	(MILLIONS OF DOLLARS)					
<u>CAPITALIZATION STATISTICS</u>						
<u>AMOUNT OF CAPITAL EMPLOYED</u>						
TOTAL PERMANENT CAPITAL	\$864.244	\$775.165	\$723.707	\$623.645	\$577.916	
SHORT-TERM DEBT	<u>\$33.459</u>	<u>\$36.066</u>	<u>\$45.853</u>	<u>\$32.606</u>	<u>\$27.610</u>	
TOTAL CAPITAL EMPLOYED	<u>\$897.703</u>	<u>\$811.231</u>	<u>\$769.560</u>	<u>\$656.251</u>	<u>\$605.526</u>	
<u>INDICATED AVERAGE CAPITAL COST RATES (2)</u>						
LONG-TERM DEBT	6.1 %	6.5 %	6.7 %	6.5 %	7.2 %	
PREFERRED STOCK	5.9	5.6	5.1	5.0	6.2	
						<u>5 YEAR</u>
						<u>AVERAGE</u>
<u>CAPITAL STRUCTURE RATIOS</u>						
BASED ON TOTAL PERMANENT CAPITAL:						
LONG-TERM DEBT	54.7 %	55.2 %	54.6 %	55.1 %	53.7 %	54.7 %
PREFERRED STOCK	2.5	3.0	3.1	3.3	3.8	3.1
COMMON EQUITY	<u>42.8</u>	<u>41.8</u>	<u>42.3</u>	<u>41.6</u>	<u>42.5</u>	<u>42.2</u>
TOTAL	<u>100.0 %</u>	<u>100.0 %</u>	<u>100.0 %</u>	<u>100.0 %</u>	<u>100.0 %</u>	<u>100.0 %</u>
BASED ON TOTAL CAPITAL:						
TOTAL DEBT, INCLUDING SHORT-TERM	56.0 %	56.9 %	57.0 %	56.4 %	56.0 %	56.4 %
PREFERRED STOCK	2.4	2.9	2.8	3.2	3.6	3.0
COMMON EQUITY	<u>41.6</u>	<u>40.2</u>	<u>40.2</u>	<u>40.4</u>	<u>40.4</u>	<u>40.6</u>
TOTAL	<u>100.0 %</u>	<u>100.0 %</u>	<u>100.0 %</u>	<u>100.0 %</u>	<u>100.0 %</u>	<u>100.0 %</u>
<u>FINANCIAL STATISTICS</u>						
<u>FINANCIAL RATIOS - MARKET BASED</u>						
EARNINGS / PRICE RATIO	6.1 %	6.7 %	7.3 %	7.6 %	7.6 %	7.1 %
MARKET / AVERAGE BOOK RATIO	195.3	163.7	144.7	132.9	136.3	154.6
DIVIDEND YIELD	4.1	5.0	5.7	6.1	5.8	5.4
DIVIDEND PAYOUT RATIO	67.5	75.7	78.5	86.0	77.4	77.0
<u>RATE OF RETURN ON AVERAGE BOOK COMMON EQUITY</u>	11.2 %	10.5 %	10.5 %	10.2 %	10.5 %	10.6 %
<u>COVERAGES - EXCLUDING ALL AFUDC (3)</u>						
BEFORE INCOME TAXES: ALL INTEREST CHARGES	2.84 x	2.78 x	2.72 x	2.71 x	2.73 x	2.76 x
AFTER INCOME TAXES: ALL INTEREST CHARGES	2.14	2.09	2.02	2.02	2.03	2.06
OVERALL COVERAGE: ALL INTEREST + PRD. DIV.	2.08	2.03	1.97	1.96	1.97	2.00
<u>QUALITY OF EARNINGS</u>						
AFUDC / INCOME AVAILABLE FOR COMMON EQUITY	7.7 %	5.3 %	11.2 %	8.7 %	5.3 %	7.6 %
EFFECTIVE INCOME TAX RATE	35.6	37.3	37.5	38.2	38.2	37.3
NET CASH FLOW / CAPITAL EXPENDITURES (4)	41.6	52.2	46.7	39.6	56.6	47.4
FUNDS FROM OPERATIONS / TOTAL DEBT (5)	13.8	14.2	13.0	12.9	13.9	13.6
FUNDS FROM OPERATIONS / INTEREST COVERAGE (6)	3.1 x	3.1 x	2.9 x	2.8 x	3.0 x	3.0 x

SEE PAGE 2 FOR NOTES

Proxy Group of Seven Water Companies  
Capitalization and Financial Statistics  
1994-1998, Inclusive

Notes:

- (1) All capitalization and financial statistics for the group are the arithmetic average of the achieved results for each individual company in the group, and are based upon financial statements as originally reported in each year.
- (2) Computed by relating actual long-term debt interest or preferred stock dividends booked to average of beginning and ending long-term debt or preferred stock reported to be outstanding.
- (3) Coverages - excluding all AFUDC represent the number of times available earnings, excluding all AFUDC, cover fixed charges.
- (4) Net cash flow / capital spending is the percentage of gross construction expenditures, excluding all AFUDC, provided by funds from operations (sum of net income, depreciation, amortization, net deferred income tax and investment tax credits, less total AFUDC), after payment of all cash dividends.
- (5) Funds from operations (sum of net income, depreciation, amortization, net deferred income tax and investment tax credits, less total AFUDC) as a percentage of total debt.
- (6) Funds from operations (as defined in Note 5) plus interest charges divided by interest charges

Selection Criteria:

The basis of selection was to include those domestic water companies: 1) which are included in the Water Company Group of C. A. Turner Public Utility Reports; 2) which are included in Standard & Poor's Compustat Services, Inc., PC Plus Database; 3) which have an SIC Code of 4941 (Water Supply); 4) which have actively traded common stock; and 5) which do not operate in California.

The following six water companies met the above criteria:

American Water Works Co., Inc.  
Aquarion Company  
Connecticut Water Service, Inc.  
E'Town Corporation  
Middlesex Water Company  
Philadelphia Suburban Corp.  
United Water Resources, Inc.

Capital Structure Ratios Based upon Total Capital for  
the Proxy Group of Seven Water Companies  
for the Years 1994 through 1998

	1998	1997	1996	1995	1994
<u>Amer. Water Works Co., Inc.</u>					
Long-Term Debt	60.25 %	57.96 %	57.62 %	57.23 %	60.10 %
Short-Term Debt	2.47	4.12	4.79	5.95	3.58
Preferred Stock	2.71	2.99	3.22	4.02	4.42
Common Equity	<u>34.57</u>	<u>34.93</u>	<u>34.37</u>	<u>32.80</u>	<u>31.90</u>
Total Capital	<u>100.00 %</u>	<u>100.00 %</u>	<u>100.00 %</u>	<u>100.00 %</u>	<u>100.00 %</u>
<u>Conn. Water Service, Inc.</u>					
Long-Term Debt	50.78 %	45.39 %	47.17 %	49.66 %	51.48 %
Short-Term Debt	1.54	7.33	5.02	2.40	2.55
Preferred Stock	0.62	0.64	0.67	0.70	0.73
Common Equity	<u>47.06</u>	<u>46.64</u>	<u>47.14</u>	<u>47.22</u>	<u>45.24</u>
Total Capital	<u>100.00 %</u>	<u>100.00 %</u>	<u>100.00 %</u>	<u>99.98 %</u>	<u>100.00 %</u>
<u>E'town Corporation</u>					
Long-Term Debt	52.39 %	51.93 %	42.25 %	47.27 %	45.05 %
Short-Term Debt	7.71	4.83	15.06	6.59	6.72
Preferred Stock	2.14	2.52	2.62	2.93	3.51
Common Equity	<u>37.76</u>	<u>40.72</u>	<u>40.07</u>	<u>43.21</u>	<u>44.72</u>
Total Capital	<u>100.00 %</u>	<u>100.00 %</u>	<u>100.00 %</u>	<u>100.00 %</u>	<u>100.00 %</u>
<u>Middlesex Water Company</u>					
Long-Term Debt	51.78 %	48.25 %	50.53 %	51.40 %	50.96 %
Short-Term Debt	0.66	0.52	0.00	0.00	0.00
Preferred Stock	3.32	4.55	2.54	2.58	2.87
Common Equity	<u>44.24</u>	<u>46.68</u>	<u>46.93</u>	<u>46.03</u>	<u>46.17</u>
Total Capital	<u>100.00 %</u>	<u>100.00 %</u>	<u>100.00 %</u>	<u>100.01 %</u>	<u>100.00 %</u>
<u>Pennichuck Corporation</u>					
Long-Term Debt	52.87 %	64.86 %	62.31 %	63.19 %	50.58 %
Short-Term Debt	0.00	0.00	0.00	0.00	13.92
Preferred Stock	0.59	0.00	0.00	0.00	0.00
Common Equity	<u>46.54</u>	<u>35.14</u>	<u>37.69</u>	<u>36.81</u>	<u>35.50</u>
Total Capital	<u>100.00 %</u>	<u>100.00 %</u>	<u>100.00 %</u>	<u>100.00 %</u>	<u>100.00 %</u>
<u>Philadelphia Suburban Corp.</u>					
Long-Term Debt	52.40 %	52.88 %	54.60 %	52.56 %	49.23 %
Short-Term Debt	1.05	2.34	1.32	1.80	1.30
Preferred Stock	0.64	1.67	2.10	1.98	3.22
Common Equity	<u>45.91</u>	<u>43.11</u>	<u>41.98</u>	<u>43.66</u>	<u>46.25</u>
Total Capital	<u>100.00 %</u>	<u>100.00 %</u>	<u>100.00 %</u>	<u>100.00 %</u>	<u>100.00 %</u>
<u>United Water Resources, Inc.</u>					
Long-Term Debt	50.61 %	51.61 %	50.01 %	52.91 %	49.09 %
Short-Term Debt	7.20	6.15	7.93	4.02	7.28
Preferred Stock	7.04	7.87	8.73	9.93	10.24
Common Equity	<u>35.15</u>	<u>34.37</u>	<u>33.33</u>	<u>33.14</u>	<u>33.39</u>
Total Capital	<u>100.00 %</u>	<u>100.00 %</u>	<u>100.00 %</u>	<u>100.00 %</u>	<u>100.00 %</u>
<u>Proxy Group of Seven Water Companies</u>					
Long-Term Debt	53.01 %	53.27 %	52.07 %	53.46 %	50.93 %
Short-Term Debt	2.95	3.61	4.88	2.97	5.05
Preferred Stock	2.44	2.89	2.84	3.16	3.57
Common Equity	<u>41.60</u>	<u>40.23</u>	<u>40.21</u>	<u>40.41</u>	<u>40.45</u>
Total Capital	<u>100.00 %</u>	<u>100.00 %</u>	<u>100.00 %</u>	<u>100.00 %</u>	<u>100.00 %</u>

Source of Information: Standard & Poor's Compustat Services, Inc., PC Plus Database

PROXY GROUP OF EIGHT UTILITIES SELECTED ON THE BASIS OF LEAST RELATIVE DISTANCE  
CAPITALIZATION AND FINANCIAL STATISTICS (1)  
1994 - 1998, INCLUSIVE

	<u>1998</u>	<u>1997</u>	<u>1996</u>	<u>1995</u>	<u>1994</u>	
	(MILLIONS OF DOLLARS)					
<u>CAPITALIZATION STATISTICS</u>						
<u>AMOUNT OF CAPITAL EMPLOYED</u>						
TOTAL PERMANENT CAPITAL	\$5,158.764	\$4,723.934	\$3,993.416	\$3,842.181	\$3,510.402	
SHORT-TERM DEBT	<u>\$393.534</u>	<u>\$426.052</u>	<u>\$351.945</u>	<u>\$354.923</u>	<u>\$221.894</u>	
TOTAL CAPITAL EMPLOYED	<u>\$5,552.298</u>	<u>\$5,149.986</u>	<u>\$4,345.361</u>	<u>\$4,197.104</u>	<u>\$3,732.295</u>	
<u>INDICATED AVERAGE CAPITAL COST RATES (2)</u>						
LONG-TERM DEBT	5.7 %	6.1 %	5.7 %	5.9 %	5.9 %	
PREFERRED STOCK	6.2	6.5	7.1	7.1	7.7	
<u>CAPITAL STRUCTURE RATIOS</u>						
5 YEAR AVERAGE						
BASED ON TOTAL PERMANENT CAPITAL:						
LONG-TERM DEBT	58.3 %	56.6 %	53.8 %	54.5 %	56.2 %	55.9 %
PREFERRED STOCK	3.3	3.6	5.8	6.4	6.7	5.2
COMMON EQUITY	<u>38.4</u>	<u>39.8</u>	<u>40.4</u>	<u>39.1</u>	<u>37.1</u>	<u>38.9</u>
TOTAL	<u>100.0 %</u>	<u>100.0 %</u>	<u>100.0 %</u>	<u>100.0 %</u>	<u>100.0 %</u>	<u>100.0 %</u>
BASED ON TOTAL CAPITAL:						
TOTAL DEBT, INCLUDING SHORT-TERM	61.5 %	61.9 %	58.6 %	57.9 %	59.1 %	59.8 %
PREFERRED STOCK	3.0	3.2	5.4	6.1	6.2	4.8
COMMON EQUITY	<u>35.5</u>	<u>34.9</u>	<u>36.0</u>	<u>36.0</u>	<u>34.7</u>	<u>35.4</u>
TOTAL	<u>100.0 %</u>	<u>100.0 %</u>	<u>100.0 %</u>	<u>100.0 %</u>	<u>100.0 %</u>	<u>100.0 %</u>
<u>FINANCIAL STATISTICS</u>						
<u>FINANCIAL RATIOS - MARKET BASED</u>						
EARNINGS / PRICE RATIO	6.1 %	6.9 %	7.6 %	7.0 %	8.4 %	7.2 %
MARKET / AVERAGE BOOK RATIO	176.9	158.2	151.5	150.8	152.4	157.9
DIVIDEND YIELD	4.8	5.4	5.6	5.6	5.7	5.4
DIVIDEND PAYOUT RATIO	78.8	77.2	75.5	87.2	66.0	76.9
<u>RATE OF RETURN ON AVERAGE BOOK COMMON EQUITY</u>	10.5 %	10.7 %	11.4 %	10.9 %	12.8 %	11.3 %
<u>COVERAGES - EXCLUDING ALL AFUDC (3)</u>						
BEFORE INCOME TAXES: ALL INTEREST CHARGES	2.35 x	2.44 x	2.53 x	2.42 x	2.54 x	2.46 x
AFTER INCOME TAXES: ALL INTEREST CHARGES	1.86	1.89	1.94	1.89	1.96	1.91
OVERALL COVERAGE: ALL INTEREST + PRD. DIV.	1.79	1.79	1.80	1.75	1.81	1.79
<u>QUALITY OF EARNINGS</u>						
AFUDC / INCOME AVAILABLE FOR COMMON EQUITY	6.7 %	6.5 %	4.3 %	7.2 %	5.6 %	6.1 %
EFFECTIVE INCOME TAX RATE	33.9	36.4	36.9	36.4	36.0	35.9
NET CASH FLOW / CAPITAL EXPENDITURES (4)	73.2	76.0	83.1	65.3	76.2	74.8
FUNDS FROM OPERATIONS / TOTAL DEBT (5)	15.2	15.3	18.2	16.9	16.7	16.4
FUNDS FROM OPERATIONS / INTEREST COVERAGE (6)	3.2 x	3.3 x	3.4 x	3.1 x	3.1 x	3.2 x

SEE PAGE 2 FOR NOTES.

Proxy Group of Eight Utilities Selected on the Basis of Least Relative Distance  
Capitalization and Financial Statistics  
1994-1998, Inclusive

Notes:

- (1) All capitalization and financial statistics for the group are the arithmetic average of the achieved results for each individual company in the group, and are based upon financial statements as originally reported in each year.
- (2) Computed by relating actual long-term debt interest or preferred stock dividends booked to average of beginning and ending long-term debt or preferred stock reported to be outstanding.
- (3) Coverages - excluding all AFUDC represent the number of times available earnings, excluding all AFUDC, cover fixed charges.
- (4) Net cash flow / capital spending is the percentage of gross construction expenditures, excluding all AFUDC, provided by funds from operations (sum of net income, depreciation, amortization, net deferred income tax and investment tax credits, less total AFUDC), after payment of all cash dividends.
- (5) Funds from operations (sum of net income, depreciation, amortization, net deferred income tax and investment tax credits, less total AFUDC) as a percentage of total debt.
- (6) Funds from operations (as defined in Note 5) plus interest charges divided by interest charges

Selection Criteria:

The basis of selection was to include those electric, gas, combination electric and gas, and water utilities: 1) which are included in Standard & Poor's Compustat Services, Inc., PC Plus Database; 2) which have actively traded common stock; 3) which are most similar in risk to Consumers Illinois Water Company based upon an analysis of the least relative distance of eight financial and operating ratios as explained in detail in Ms. Ahern's direct testimony; 4) which have projected growth rates published in either Value Line Investment Survey (Standard Edition) or by I/B/E/S; and 5) which have not cut or omitted their common dividends in the five years ending 1999 or through the time of the preparation of Ms. Ahern's direct testimony, nor are expected by Value Line Investment Survey (Standard Edition) to cut their dividends during the next five years

Source of Information: Standard & Poor's Compustat Services, Inc., PC Plus Database

Capital Structure Ratios Based upon Total Capital for  
the Proxy Group Selected on the Basis of Least Relative Distance  
for the Years 1994 through 1998

	1998	1997	1996	1995	1994
<u>American Water Works Co., Inc.</u>					
Long-Term Debt	60.25 %	57.96 %	57.62 %	57.23 %	60.10 %
Short-Term Debt	2.47	4.12	4.79	5.95	3.58
Preferred Stock	2.71	2.99	3.22	4.02	4.42
Common Equity	<u>34.57</u>	<u>34.93</u>	<u>34.37</u>	<u>32.80</u>	<u>31.90</u>
Total Capital	<u>100.00 %</u>	<u>100.00 %</u>	<u>100.00 %</u>	<u>100.00 %</u>	<u>100.00 %</u>
<u>Berkshire Energy Resources</u>					
Long-Term Debt	49.42 %	51.15 %	43.46 %	46.87 %	45.69 %
Short-Term Debt	8.75	8.28	4.94	0.00	9.40
Preferred Stock	0.40	0.46	11.41	12.42	12.13
Common Equity	<u>41.43</u>	<u>40.11</u>	<u>40.19</u>	<u>40.71</u>	<u>32.78</u>
Total Capital	<u>100.00 %</u>	<u>100.00 %</u>	<u>100.00 %</u>	<u>100.00 %</u>	<u>100.00 %</u>
<u>CMS Energy Corp.</u>					
Long-Term Debt	66.48 %	62.79 %	59.09 %	59.78 %	61.52 %
Short-Term Debt	3.95	5.47	5.70	6.33	7.24
Preferred Stock	2.87	3.41	6.09	6.61	7.60
Common Equity	<u>26.70</u>	<u>28.33</u>	<u>29.12</u>	<u>27.28</u>	<u>23.64</u>
Total Capital	<u>100.00 %</u>	<u>100.00 %</u>	<u>100.00 %</u>	<u>100.00 %</u>	<u>100.00 %</u>
<u>Eastern Utilities Associates</u>					
Long-Term Debt	41.31 %	46.33 %	48.67 %	50.36 %	53.65 %
Short-Term Debt	7.90	7.03	5.81	4.38	3.42
Preferred Stock	4.34	3.95	3.81	3.68	3.49
Common Equity	<u>46.45</u>	<u>42.69</u>	<u>41.71</u>	<u>41.58</u>	<u>39.44</u>
Total Capital	<u>100.00 %</u>	<u>100.00 %</u>	<u>100.00 %</u>	<u>100.00 %</u>	<u>100.00 %</u>
<u>Energy West Inc.</u>					
Long-Term Debt	55.38 %	30.05 %	35.88 %	45.09 %	50.90 %
Short-Term Debt	4.52	34.05	24.77	10.94	5.87
Preferred Stock	0.00	0.00	0.00	0.00	0.00
Common Equity	<u>40.10</u>	<u>35.90</u>	<u>39.35</u>	<u>43.97</u>	<u>43.23</u>
Total Capital	<u>100.00 %</u>	<u>100.00 %</u>	<u>100.00 %</u>	<u>100.00 %</u>	<u>100.00 %</u>
<u>Hawaiian Electric Industries, Inc.</u>					
Long-Term Debt	53.59 %	51.79 %	48.98 %	47.11 %	56.32 %
Short-Term Debt	20.76	20.65	22.83	22.23	10.97
Preferred Stock	2.39	2.58	2.86	3.37	3.93
Common Equity	<u>23.26</u>	<u>24.98</u>	<u>25.33</u>	<u>27.29</u>	<u>28.78</u>
Total Capital	<u>100.00 %</u>	<u>100.00 %</u>	<u>100.00 %</u>	<u>100.00 %</u>	<u>100.00 %</u>
<u>Southern Company</u>					
Long-Term Debt	53.09 %	50.32 %	41.15 %	42.62 %	43.01 %
Short-Term Debt	6.85	8.11	7.14	7.98	5.31
Preferred Stock	3.39	3.65	7.35	7.47	7.24
Common Equity	<u>36.69</u>	<u>37.92</u>	<u>44.36</u>	<u>41.93</u>	<u>44.44</u>
Total Capital	<u>100.02 %</u>	<u>100.00 %</u>	<u>100.00 %</u>	<u>100.00 %</u>	<u>100.00 %</u>
<u>United Water Resources, Inc.</u>					
Long-Term Debt	50.61 %	51.61 %	50.01 %	52.91 %	49.09 %
Short-Term Debt	7.20	6.15	7.93	4.02	7.28
Preferred Stock	7.04	7.87	8.73	9.93	10.24
Common Equity	<u>35.15</u>	<u>34.37</u>	<u>33.33</u>	<u>33.14</u>	<u>33.39</u>
Total Capital	<u>100.00 %</u>	<u>100.00 %</u>	<u>100.00 %</u>	<u>100.00 %</u>	<u>100.00 %</u>
Proxy Group of Eight Utilities Selected on the Basis of <u>Least Relative Distance</u>					
					%
Long-Term Debt	53.76	50.25	48.11	50.24	52.53
Short-Term Debt	7.80	11.74	10.49	7.73	6.64
Preferred Stock	2.89	3.11	5.43	5.94	6.13
Common Equity	<u>35.55</u>	<u>34.90</u>	<u>35.97</u>	<u>36.09</u>	<u>34.70</u>
Total Capital	<u>100.00 %</u>	<u>100.00 %</u>	<u>100.00 %</u>	<u>100.00 %</u>	<u>100.00 %</u>

Source of Information: Standard & Poor's Compustat Services, Inc., PC Plus Database

Basis for the Selection of the Proxy Group of Eight Utilities  
Selected on the Basis of Least Relative Distance

	<u>Pre-Tax Interest Coverage (1)</u>	<u>Common Equity Ratio (2)</u>	<u>Fixed Asset Turnover (3)</u>	<u>AFUDC to Net Income (4)</u>	<u>Cash Flow as a % of Permanent Capitalization (5)</u>	<u>Net Cash Flow to Expenditures (6)</u>	<u>Funds Flow Interest Coverage (7)</u>	<u>Operating Earnings Stability (8)</u>	<u>Sum of Distance (9)</u>
American Water Works Co., Inc.	2.1805	0.3651	0.2082	0.1142	0.0747	0.5217	2.5646	4.9155	0.7582
Berkshire Energy Resources	2.3920	0.4514	0.4732	0.0000	0.1207	0.7785	3.1195	4.0072	0.7267
CMS Energy Corp.	2.1238	0.3180	0.4437	0.0649	0.1140	0.7128	3.1849	4.4679	0.7454
Eastern Utilities Associates	2.3425	0.4939	0.5174	0.0404	0.1195	0.9040	3.3064	3.6575	1.0310
Energy West Inc.	2.4776	0.5036	0.8333	0.0000	0.1462	0.7435	3.4706	4.6681	1.2794
Hawaiian Electric Industries, Inc.	1.5143	0.3545	0.5204	0.1287	0.0844	0.4993	1.6402	3.2851	1.4788
Southern Company	2.8460	0.4445	0.3208	0.0137	0.1141	0.9149	3.6114	3.9472	1.3373
United Water Resources, Inc.	2.1668	0.3737	0.2153	0.1122	0.0801	0.5636	2.8226	5.0084	0.8760
Consumers Illinois Water Company	2.0964	0.4707	0.1688	0.0456	0.0751	0.6179	2.5829	4.1801	0.0000

See page 5 for notes.

Basis for the Selection of the Proxy Group of  
Eight Utilities Selected on the Basis of Least Relative Distance

Notes:

- (1) Pre-tax interest coverage represents the number of times available earnings, before income taxes, excluding all allowance for funds used during construction (AFUDC) cover total interest charges, average for the years 1996, 1997 and 1998.
- (2) Common equity ratio is the ratio of total common equity to permanent capitalization (the sum of total long-term debt, current maturities, total preferred stock and total common equity), average for the years 1996, 1997 and 1998.
- (3) Fixed asset turnover is the ratio of total operating revenues to gross utility plant, average for the years 1996, 1997 and 1998.
- (4) AFUDC to net income is the ratio of total AFUDC to income available for common equity, average for the years 1996, 1997 and 1998.
- (5) Cash flow as a percent of permanent capitalization is the ratio of funds from operations (sum of net income, depreciation, amortization, net deferred income tax and investment tax credits, less total AFUDC) to permanent capitalization (the sum of total long-term debt, current maturities, total preferred stock and total common equity), average for the years 1996, 1997 and 1998.
- (6) Net cash flow to capital expenditures is the ratio of gross construction expenditures, excluding all AFUDC, provided by funds from operation (as defined in Note 5), after payment of all cash dividends, average for the years 1996, 1997 and 1998.
- (7) Funds flow interest coverage is the ratio of funds from operations (as defined in Note 5) plus total interest charges to total interest charges, average for the years 1996, 1997 and 1998.
- (8) Operating earnings stability is an index of the variation in quarterly before-income tax operating income for the years 1996, 1997 and 1998. It is calculated by dividing the standard error of the estimate of a regression about a trend line by the mean. It is analogous to the coefficient of variation.
- (9) Sum of distance is calculated as the squared distances between the eight operating / financial ratios of each firm and Consumers Illinois Water Company, summing the squared distances, and then calculating the square root of the summation.

Source of Information: Standard & Poor's Compustat Services, Inc., PC Plus Database  
Consumers Illinois Water Company audited financial statements



**UTILITY REGULATORY POLICY IN THE  
UNITED STATES  
AND CANADA**

**COMPILATION 1995-1996**

**OF THE**

**NATIONAL ASSOCIATION OF  
REGULATORY UTILITY COMMISSIONERS**

**Michael Foley  
Acting Executive Director**

**Jessica O'Connor-Petts  
Research Analyst**

TABLE 308 - AGENCY AUTHORITY OVER RATE OF RETURN - WATER UTILITIES

AGENCY	Agency determines rate of return under its general authority	Capital structure is adjusted to exclude non-utility financing when it is traceable	Method Agency favors in determining rate of return								Duration of call protection influences judgment in determining rate of return
			No ONE method ALL are considered	** Dis-counted cash flow	** Com-parable earn-ings test	** Earn-ings/price ratio	** Mid-point app-roach	** Capital asset pricing model	** Risk prem-ium	** Other	
ALABAMA PSC 11/	X	X		X							Possible.
ALASKA PUC	X	X			X						
ARIZONA CC	X	X	X 2/	X 6/							Possible.
ARKANSAS PSC	X		X	X 9/							
CALIFORNIA PUC	X	X 1/	X 2/	X	X			X	X	X	Possible.
COLORADO PUC	X	X		X 7/	X						
CONNECTICUT DPUC	X	X		X							
DELAWARE PSC	X		X 2/	X	X					X	
DC PSC	DOES NOT REGULATE										
FLORIDA PSC	X	X 1/	X 2/								
GEORGIA PSC	DOES NOT REGULATE										
HAWAII PUC	X	X	X 2/							X	
IDAHO PUC	X	X		X 7/	X	X					
ILLINOIS CC	X	X	X 2/				X			X	
INDIANA URC	X		X								
IOWA UB	X	X 1/	X	X					X	X 5/	
KANSAS SCC	X	X		X							
KENTUCKY PSC	X	X	X 2/	X	X	X	X			X	
LOUISIANA PSC	X			X							
MAINE PUC	X	8/	X 7/	X							
MARYLAND PSC	X	X		X						X 5/	
MASSACHUSETTS DPU	X	X		X 4/						X 4/	
MICHIGAN PSC	X	X	X		X		X	X	X	X	
MINNESOTA PUC	DOES NOT REGULATE			X	X						
MISSISSIPPI PSC	X	X									
MISSOURI PSC 12/	X	X		X							
MONTANA PSC	X	X		X	X						
NEBRASKA PSC	X	X	X								
NEVADA PSC	X	X		X	X	X					Yes
NEW HAMPSHIRE PUC	X	X		X							
NEW JERSEY BPU 11/	X	X	X					X	X	X	
NEW MEXICO PUC	X	X	X 2/	X						X	
NEW YORK PSC	X	X	X	X 6/						X	
NORTH CAROLINA UC	X	X	X 2/	X	X			X	X	X	
NORTH DAKOTA PSC	DOES NOT REGULATE										No decision.
OHIO PUC	X	X	X	X 6/						X 6/	
OKLAHOMA CC	X	X	X 2/	X						X	Maybe, if soon
OREGON PUC	X	X 1/		X				X			
PENNSYLVANIA PUC	X	X	X 2/	X	X	X	X			X	
RHODE ISLAND PUC	X	X	X	X	X					X 3/	
SOUTH CAROLINA PSC	X	X		X				X	X		
SOUTH DAKOTA PUC	DOES NOT REGULATE										
TEXAS NRCC	X	X							X		
UTAH PSC	X	X		X							
VERMONT PSB	X	X		X	X					X	
VIRGINIA SCC	X	X	X 2/								
WASHINGTON UTC	X	X		X							
WEST VIRGINIA PSC	X	X	X 2/	X	X			X	X	X	
WISCONSIN PSC	X	X	X 2/	X				X		X	
WYOMING PSC	X	ICB	X 2/	X	X			X		X 10/	
PUERTO RICO PSC 11/	X	X			X						
VIRGIN ISLANDS PSC	X	8/	X 2/	X	X					X	
ALBERTA EUB	X	X	X 2/	X	X					X	
NOVA SCOTIA UARB	X	X	X 2/	X	X				X	X	

\*\* For definitions of terms, please consult the Glossary of Terms at the back of this book. ICB=Case-by-Case Basis

**FOOTNOTES - TABLE 308**  
**AGENCY AUTHORITY OVER RATE OF RETURN**

- 1/ Non-utility investment dollars are always excluded from rate base. Where non-utility investment is comparatively small, capital ratios are not adjusted. When non-utility investment is large, we usually remove non-utility investment from equity.
- 2/ Commission favors no single method, but rather that which produces the most reasonable results.
- 3/ It may use any method it desires especially in the case of a small company.
- 4/ DCF is preferred, but Department approves other methods which check DCF result; risk spread analysis preferred by a slight margin. Financial condition of utility also given serious consideration.
- 5/ DCF is preferred; other methods are considered.
- 6/ No single method, however, discounted cash flow is frequently used.
- 7/ DCF has been the preferred method, but its results should be checked with other methods.
- 8/ Never an issue before this agency.
- 9/ Agency favors DCF, but any method presented is considered.
- 10/ Most jurisdictional water operations are so small an operation ratio or cash flow basis is used rather than a ROR determination.
- 11/ Commission did not respond to request for update information; this data may not be current.
- 12/ DCF has been the preferred method, but its results are generally checked with other methods such as risk premium and CAPM.

Consumers Illinois Water Company  
Stock Price Index Level, Earnings Per Share and Dividends Per Share  
for the S&P Utilities Index and the S&P 500 Composite Index  
Quarterly for the Third Quarter 1989 through the Third Quarter 1999

Year	Quarter	S&P Utilities Index			S&P 500 Composite Index		
		Stock Price Index	EPS - Adjusted to Stock Price Index (4 qtr. total)	DPS - Adjusted to Stock Price Index (4 qtr. total)	Stock Price Index	EPS - Adjusted to Stock Price Index (4 qtr. total)	DPS - Adjusted to Stock Price Index (4 qtr. total)
1989	3rd	142.35	9.72	7.69	349.15	23.69	10.67
	4th	156.34	10.42	7.89	353.40	22.90	11.05
1990	1st	142.72	10.29	8.10	339.94	21.67	11.32
	2nd	141.39	9.86	8.18	358.02	21.26	11.67
	3rd	133.02	9.97	8.16	306.05	21.74	11.84
	4th	143.59	9.65	8.29	330.22	21.34	12.10
1991	1st	144.82	9.50	8.24	375.22	20.87	12.12
	2nd	136.58	9.45	8.41	371.16	19.35	12.15
	3rd	145.18	9.34	8.53	387.86	17.82	12.28
	4th	155.16	8.60	8.51	417.09	15.97	12.20
1992	1st	138.68	8.63	8.64	403.69	16.20	12.32
	2nd	147.33	9.02	8.54	408.14	17.05	12.32
	3rd	156.79	9.50	8.55	417.80	18.04	12.39
	4th	158.46	10.64	8.55	435.71	19.09	12.38
1993	1st	173.45	10.86	8.55	451.67	19.84	12.48
	2nd	175.34	11.02	8.56	450.53	19.33	12.52
	3rd	185.39	10.75	8.61	458.93	20.41	12.52
	4th	172.58	8.62	8.66	466.45	21.88	12.58
1994	1st	156.33	8.70	8.70	445.77	22.71	12.71
	2nd	153.99	8.88	8.87	444.27	25.20	12.84
	3rd	152.50	9.37	8.93	462.69	27.33	12.93
	4th	150.12	11.57	8.86	459.27	30.60	13.18
1995	1st	158.38	11.89	8.90	500.71	32.60	13.18
	2nd	167.86	12.12	8.83	544.75	34.44	13.37
	3rd	184.46	12.56	8.70	584.41	35.18	13.58
	4th	202.58	12.30	8.88	615.93	33.96	13.79
1996	1st	190.84	12.79	8.94	645.50	34.04	14.10
	2nd	198.08	13.03	9.00	670.63	34.91	14.27
	3rd	188.80	13.94	9.46	687.31	36.00	14.66
	4th	198.81	14.61	9.64	740.74	38.72	14.90
1997	1st	189.82	14.72	9.82	757.12	40.24	15.06
	2nd	198.39	13.74	10.01	885.14	40.55	15.16
	3rd	205.24	13.03	10.04	947.28	40.64	15.33
	4th	235.81	9.52	10.07	970.43	39.72	15.50
1998	1st	246.50	9.10	10.17	1101.75	39.54	15.65
	2nd	246.75	8.03	10.34	1133.84	38.97	15.95
	3rd	255.53	9.20	10.21	1017.01	38.09	16.15
	4th	259.62	12.15	10.13	1229.23	37.71	16.20
1999	1st	232.91	12.39	10.15	1286.37	38.38	16.45
	2nd	257.51	13.41	9.95	1372.71	41.02	16.45
	3rd	242.77	14.83	9.92	1282.71	43.96	16.64

% Change from  
3rd Quarter 1989 -  
3rd Quarter 1999

70.54 %   52.57 %   29.00 %   267.38 %   85.56 %   55.95 %

Source of Information: Standard & Poor's Security Price Index Record  
Standard & Poor's Current Statistics

Consumers Illinois Water Company  
Example of the Inadequacy of  
a DCF Return Rate Related to Book Value  
When Market Value Exceeds Book Value

<u>Line No.</u>		<u>Market Value</u>	<u>Book Value</u>
1.	Per Share	\$ 24.00	\$ 15.00
2.	DCF Cost Rate (1)	10.60%	10.60%
3.	Return in Dollars	\$ 2.544	\$ 1.590
4.	Dividends (2)	\$ 1.248	\$ 1.248
5.	Growth in Dollars	\$ 1.296	\$ 0.342
6.	Return on Market Value	10.60%	6.63% (3)
7.	Rate of Growth on Market Value	5.40% (4)	1.43% (5)

- Notes: (1) Comprised of 5.2% dividend yield and 5.4% growth.  
 (2)  $\$24.00 \times 5.2\% \text{ yield} = \$1.248$   
 (3)  $\$1.590 / \$24.00 \text{ market value} = 6.63\%$ .  
 (4) Expected rate of growth per market based DCF model.  
 (5) Actual rate of growth when DCF cost rate is applied to book value  
 ( $\$1.590 \text{ possible earnings} - \$1.248 \text{ dividends} = \$0.342 \text{ for growth} /$   
 $\$24.00 \text{ market value} = 1.43\%$ ).

Consumers Illinois Water Company  
Indicated Common Equity Cost Rate  
Through Use of the Discounted Cash Flow Model  
Summary of Conclusion

	<u>Proxy Group of Seven Water Companies</u>	<u>Proxy Group of of Eight Utilities Selected on the Basis Least Relative Distance</u>
1. Single Stage Discounted Cash Flow Model (1)	9.1 %	10.4 %
2. Quarterly Version of the Discounted Cash Flow Model (2)	<u>8.9</u>	<u>10.6</u>
3. Conclusion	<u>9.0 %</u>	<u>10.5 %</u>

Notes: (1) From Schedule 10.  
(2) From page 2 of Schedule 11.

Consumers Illinois Water Company  
Indicated Common Equity Cost Rate  
Through Use of the Single Stage Discounted Cash Flow Model  
Summary of Conclusion

	<u>Proxy Group of Seven Water Companies</u>	<u>Proxy Group of of Eight Utilities Selected on the Basis Least Relative Distance</u>
<u>Based upon Historical and Projected Growth in DPS, EPS, and BR+SV</u>		
1. Dividend Yield (1)	3.7 %	5.2 %
2. Dividend Growth Component (2)	<u>0.1</u>	<u>0.1</u>
3. Yield	3.8	5.3
4. Growth Rate (3)	<u>5.3</u>	<u>4.8</u>
5. Indicated Return Rate	<u>9.1 %</u>	<u>10.1 %</u>

<u>Based upon Projected Growth in EPS</u>		
6. Dividend Yield (1)	3.7 %	5.2 %
7. Dividend Growth Component (2)	<u>0.1</u>	<u>0.1</u>
8. Yield	3.8	5.3
9. Growth Rate (3)	<u>5.2</u>	<u>5.3</u>
10. Indicated Return Rate	<u>9.0 %</u>	<u>10.6 %</u>
11. Conclusion	<u>9.1 %</u>	<u>10.4 %</u>

Notes: (1) From Schedule 12.

(2) This reflects a growth rate component equal to one-half the conclusion of growth rate (from page 1 of Schedule 14) x Line Nos. 1 and 6 to reflect the period payment of dividends (Gordon Model) as opposed to the continuous payment. Thus, 3.7% x

(3) Conclusion of growth from page 1 of Schedule 14.

Consumers Illinois Water Company  
Indicated Common Equity Cost Rate Through Use of the  
Quarterly Version of the Discounted Cash Flow Model (1)  
for the Proxy Group of Seven Water Companies and the  
Proxy Group of Eight Utilities Selected on the Basis of Least Relative Distance

Based upon Historical and Projected Growth in DPS, EPS, and BR+SV (2)					
	Based upon Spot Closing Market Prices at March 21, 2000	Based Upon an Average of Closing Market Prices for Last 3 Months (3)	Based Upon an Average of Closing Market Prices for Last 6 Months (3)	Based Upon an Average of Closing Market Prices for Last 12 Months (3)	Average
<u>Proxy Group of Seven Water Companies</u>					
American Water Works Co., Inc.	12.2 %	12.1 %	11.6 %	11.2 %	11.8 %
Conn. Water Service, Inc.	6.8	6.6	6.5	6.9	6.7
Etown Corporation	6.3	6.3	6.6	7.1	6.6
Middlesex Water Company	7.0	6.8	6.7	7.1	6.9
Pennichuck Corporation	10.9	9.7	10.0	10.4	10.3
Philadelphia Suburban Corp.	11.3	11.1	10.8	10.7	11.0
United Water Resources, Inc.	6.7	6.6	6.7	7.2	6.8
Average	<u>8.7 %</u>	<u>8.5 %</u>	<u>8.4 %</u>	<u>8.7 %</u>	<u>8.6 %</u>
<u>Proxy Group of Eight Utilities Selected on the Basis of Least Relative Distance</u>					
American Water Works Co., Inc.	12.2 %	12.1 %	11.6 %	11.2 %	11.8 %
Berkshire Energy Resources	8.5	8.6	9.0	9.7	9.0
CMS Energy Corp.	20.3	18.1	17.2	16.4	18.0
Eastern Utilities Associates	7.2	7.4	7.4	7.5	7.4
Energy West Inc.	11.9	11.5	11.4	11.3	11.5
Hawaiian Electric Industries, Inc.	10.6	10.8	10.2	9.7	10.3
Southern Company	11.4	10.7	10.5	10.3	10.7
United Water Resources, Inc.	6.7	6.6	6.7	7.2	6.8
Average	<u>11.1 %</u>	<u>10.7 %</u>	<u>10.5 %</u>	<u>10.4 %</u>	<u>10.5 %</u>

See page 2 for notes.

Consumers Illinois Water Company  
Indicated Common Equity Cost Rate Through Use of the  
Quarterly Version of the Discounted Cash Flow Model (1)  
for the Proxy Group of Seven Water Companies and the  
Proxy Group of Eight Utilities Selected on the Basis of Least Relative Distance

Based upon Projected Growth in EPS (6)					
	Based upon Spot Closing Market Prices at March 21, 2000	Based Upon an Average of Closing Market Prices for Last 3 Months (3)	Based Upon an Average of Closing Market Prices for Last 6 Months (3)	Based Upon an Average of Closing Market Prices for Last 12 Months (3)	Average
<u>Proxy Group of Seven Water Companies</u>					
American Water Works Co., Inc.	11.5 %	11.4 %	10.9 %	10.5 %	11.1 %
Conn. Water Service, Inc.	7.2	7.0	7.0	7.3	7.1
E'town Corporation	7.8	7.8	8.1	8.6	8.1
Middlesex Water Company	7.5	7.3	7.1	7.5	7.4
Pennichuck Corporation	7.5	6.4	6.7	7.0	6.9
Philadelphia Suburban Corp.	13.6	13.4	13.1	13.0	13.3
United Water Resources, Inc.	9.3	9.3	9.4	9.9	9.5
Average	9.2 %	8.9 %	8.9 %	9.1 %	9.1 %
<u>Proxy Group of Eight Utilities Selected on the Basis of Least Relative Distance</u>					
American Water Works Co., Inc.	11.5 %	11.4 %	10.9 %	10.5 %	11.1 %
Berkshire Energy Resources	6.5	6.5	6.9	7.6	6.9
CMS Energy Corp.	18.1	15.9	15.0	14.2	15.8
Eastern Utilities Associates	6.7	6.8	6.9	7.0	6.9
Energy West Inc.	11.7	11.3	11.2	11.1	11.3
Hawaiian Electric Industries, Inc.	11.2	11.4	10.9	10.3	11.0
Southern Company	14.1	13.4	13.2	13.0	13.4
United Water Resources, Inc.	9.3	9.3	9.4	9.9	9.5
Average	11.1 %	10.8 %	10.6 %	10.5 %	10.7 %
<u>Conclusion</u>					
Proxy Group of Seven Water Companies	9.0 %	8.7 %	8.7 %	8.9 %	8.9 %
Proxy Group of Eight Utilities Selected on the Basis of Least Relative Distance	11.1 %	10.8 %	10.6 %	10.5 %	10.6 %

Notes: (1) See Equation (7-2) on page 5 of this Schedule.

(2) Calculated using historical and projected growth in DPS, EPS, and BR+SV for each company calculated from the individual growth rates shown on page 1 of Schedule 14 of this Exhibit in a manner identical to the conclusion of growth for each proxy group shown in column 9 on page 1 of Schedule 14 of this Exhibit.

(3) The average 3-month closing market price is based upon the market price on the last trading day of each of the three months ended February 29, 2000.

(4) The average 6-month closing market price is based upon the market price on the last trading day of each of the six months ended February 29, 2000.

(5) The average 12-month closing market price is based upon the market price on the last trading day of each of the twelve months ended February 29, 2000.

(6) Calculated using the average projected five year growth rate in EPS from column 8 on page 1 of Schedule 14 of this Schedule.

# **REGULATORY FINANCE:**

## **UTILITIES' COST OF CAPITAL**

**Roger A. Morin, PhD**

**in collaboration with  
Lisa Todd Hillman**

**1994  
PUBLIC UTILITIES REPORTS, INC.  
Arlington, Virginia**

## Chapter 7

### Alternative DCF Models

#### 7.1 The Quarterly DCF Model

The standard annual form of the DCF model:

$$K = D_1/P_0 + g$$

assumes an annual dividend payment, a yearly increase in dividends starting exactly one year from the present, a constant rate of dividend growth, and a stock price  $P_0$  that is determined on a dividend payment date. But because dividends are normally paid quarterly, the investor's required return should be assessed with a DCF model that recognizes quarterly payments.

It is a rudimentary tenet of security valuation theory discussed in Chapter 4 that when determining investor return requirements, the cost of equity is the discount rate that equates the present value of future cash receipts to the observed market price. Clearly, given that dividends are paid quarterly and given that the observed stock price reflects the quarterly nature of dividend payments, the market required return must recognize quarterly compounding, for the investor receives dividend checks and reinvests the proceeds on a quarterly schedule. Perforce, a stock that pays 4 quarterly dividends of one dollar commands a higher price than a stock that pays a 4-dollar dividend a year hence. Since investors are aware of the quarterly timing of dividend payments and since the stock price already fully reflects the quarterly payment of dividends, it is essential that the DCF model used to estimate equity costs also reflect the actual timing of quarterly dividends.

The traditional annual DCF model is based on the limiting assumptions that dividends are paid annually, and that dividends increase once a year starting exactly one year from the present. These assumptions are unnecessarily restrictive. Most companies, including utilities, in fact pay dividends on a quarterly basis. The quarterly DCF model discussed in subsequent sections of this chapter rests on the exact same assumptions as the annual DCF model except that the DCF model is refined to reflect the actual corporate practice of paying dividends quarterly rather than once a year. The quarterly version of the DCF model also assumes that the dividend rate is raised once a year instead of every quarter.

As both a practical and theoretical matter, stock yield calculations must be adjusted for the receipt of cash flows on a quarterly basis. The annual DCF

## Regulatory Finance

model inherently produces incorrect results because it assumes that all cash flows received by investors are paid annually. By analogy, a bank rate on deposits that does not take into consideration the timing of the interest payments understates the true yield if the customer receives the interest payments more than once a year. The actual yield will exceed the stated nominal rate. Bond yield calculations are also routinely adjusted for the receipts of semi-annual interest payments. What is true for bank deposits and for bonds is equally germane for common stocks.

Most, if not all, finance textbooks discuss frequency of compounding in computing the yield on a financial security. The handbooks that accompany popular financial calculators used almost universally by the financial community contain abundant directions with respect to frequency of compounding.

Appendix 7-A formally derives the quarterly DCF model, which has the following form:

$$K = \frac{[D_1(1+K)^{3/4} + D_2(1+K)^{1/2} + D_3(1+K)^{1/4} + D_4]}{P_0} + g \quad (7-1)$$

where  $D_1, D_2, D_3, D_4$  = quarterly dividends expected over the coming year

$g$  = expected growth in dividends

$P_0$  = current stock price

$K$  = required return on equity

Equation 7-1 must be solved by iteration because  $K$  appears on both sides of the equation. Note that an even more general form of the quarterly DCF model can be derived for the case where the stock price is not determined on a dividend payment date. If we let  $f_1, f_2, f_3$ , and  $f_4$  denote the fraction of the year before the quarterly dividends are received, Equation 7-1 becomes:

$$K = \frac{[D_1(1+K)^{1-f_1} + D_2(1+K)^{1-f_2} + D_3(1+K)^{1-f_3} + D_4(1+K)^{1-f_4}]}{P_0} + g \quad (7-2)$$

In the special case where the stock price happens to be determined on a dividend payment date,  $f_1, f_2, f_3$ , and  $f_4$  are equal to 0.25, 0.50, 0.75 and 1.00 and Equation 7-2 reduces back to Equation 7-1.